ORDER NO. HAD8706167A4

Service Manual

Amplifier

Stereo Integrated Amplifier

SU-V96

Color

(K) ....Black Type

Area

Color	Area
(K)	(PA) ....Far East PX.
(K)	(PE) ....European Military.

Please use this manual together with the service manual for Model No.SU-Z960, Order No.HAD8706157C8.

CHANGES

■ REPLACEMENT PARTS LIST

Note: Mentioned in this parts list are only those different from Model No.SU-Z960 (Black Type) for the destination (XA) area.

Ref.No.	Change of Part No.		Part Name&Description	Remarks
	SU-Z960 (XA) →	SU-V96 (PA,PE)		
CABINET AND CHASSIS				
3	SGYUZ960-KE	**SGYUV96-KM**	Front Panel Ass'y	Change
34	SGP7111-1A	**SGP7111-5A**	Rear Panel	Change
51	SJJ141	-------------------	Jack,Socket	Deletion
CAPACITORS				
C703	ECES1JU682U	**ECES71V103VN**	Electrolytic , 71V , 10000µF	Change
C704	ECES1JU682U	**ECES71V103VN**	Electrolytic , 71V , 10000µF	Change
ACCESSORIES				
A2	SJP2257T	-------------------	Cord	Deletion
A5	SQF12951	**SQF12955**	Instruction Book	Change
A7	SWKUV96KM	**SWKUV96KM5**	Cord	Change
PACKING				
P1	SPG5983	**SPG5985**	Carton Box	Change

Technics

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Printed in Japan
K870600850 MT/AM

ORDER NO. HAD8706157C8

Service Manual

Stereo Integrated Amplifier

Amplifier

SU-Z960

Color

(K) ....Black Type

Area

Color	Area
(K)	(EX) ....Continental Europe.
(K)	(EW) ....Switzerland.
(K)	(EH) ....Holland.
(K)	(XL) ....Australia.
(K)	(XA) ....Asia,Latin America,Middle Near East,Africa and Oceania.
(K)	(EK) ....United Kingdom.
(K)	(EB) ....Belgium.
(K)	(EF) ....France.
(K)	(EG) ...........F.R.Germany.
(K)	(Ei) ....Italy.

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz ~ 20 kHz continuous power output	
both channels driven	2 x 85 W (8Ω)
DIN power output	2 x 100 W (8Ω)
Total harmonic distortion	
rated power at 40 Hz ~ 20 kHz	0.09% (8Ω)
rated power at 1 kHz	0.05% (8Ω)
half power at 1 kHz	0.03% (8Ω)
Intermodulation distortion	
rated power at 60 Hz:7 kHz=4:1,SMPTE,8Ω	0.09%
Power bandwidth	
both channels driven,-3dB	10 Hz ~ 20 kHz (8Ω,THD 0.09%)
Residual hum and noise	1 mV
Damping factor	50 (8Ω)
Input sensitivity and impedance	
PHONO	2.5mV/47 kΩ
TUNER,CD/AUX,TAPE 1, TAPE 2/EQ	150mV/33 kΩ
PHONO maximum input voltage (1 kHz,RMS)	140 mV
S/N	
rated power(8Ω)	
PHONO	71 dB (IHF,A:78 dB)
TUNER,CD/AUX, TAPE 1,TAPE 2/EQ	70 dB (IHF,A:90 dB)
Frequency responce	
PHONO	RIAA standard curve ± 0.8dB(30 Hz ~ 15 kHz)
TUNER,CD/AUX, TAPE 1,TAPE 2/EQ	10 Hz ~ 60 kHz (-3 dB)
Tone controls	
BASS	50 Hz, +10 dB ~ -10 dB
TREBLE	20 kHz, +10 dB ~ -10 dB

Super bass	80 Hz, +6 dB
Muting	-20dB
Output voltage	
TAPE 1,2 REC OUT	150 mV
Channel balance,CD/AUX 250 Hz ~ 6,300 Hz	±1 db
Channel separation, AUX 1 kHz	50dB
Headphones output level and impedance	670 mV/330 Ω
Load impedance	
MAIN or REMOTE	8 Ω ~ 16 Ω
MAIN and REMOTE	8 Ω ~ 16 Ω

■ GENERAL

Power consumption	470 W
Power supply	
For United Kingdom and Australia	AC 50 Hz/60 Hz, 240 V
For continental Europe	AC 50 Hz/60 Hz,220 V
For others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W x H x D)	430 x 119 x 240 mm (16-15/16" x 4-11/16" x 9-7/16")
Weight	7.0 kg (15.4 lb.)

Notes:

1.Specifications are subject to change without notice. Weight and dimensions are approximate.

2.Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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BEFORE REPAIR

(1)Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors(C703,C704,10000μF) in order to discharge the voltage.

(2)Before turning the power supply on , after completion of repair , slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current 50/60Hz	300 ~ 500mA	270 ~ 470mA	100 ~ 300mA	80 ~ 280mA

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

∗ No sound is heard when the power is switched ON.

∗ Sound stops during a performance.

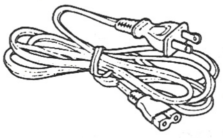
The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted" , or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

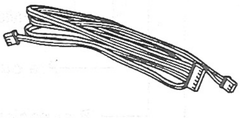
Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

ACCESSORIES

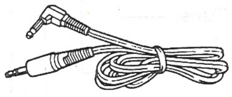
- AC power supply cord 1
  SJA168–1 [XA]
  SJA173 [XL]
  SJA188 [EK]
  SJA187 [others]



- Flat cable for remote-control operation 1
  SWKUV96KM

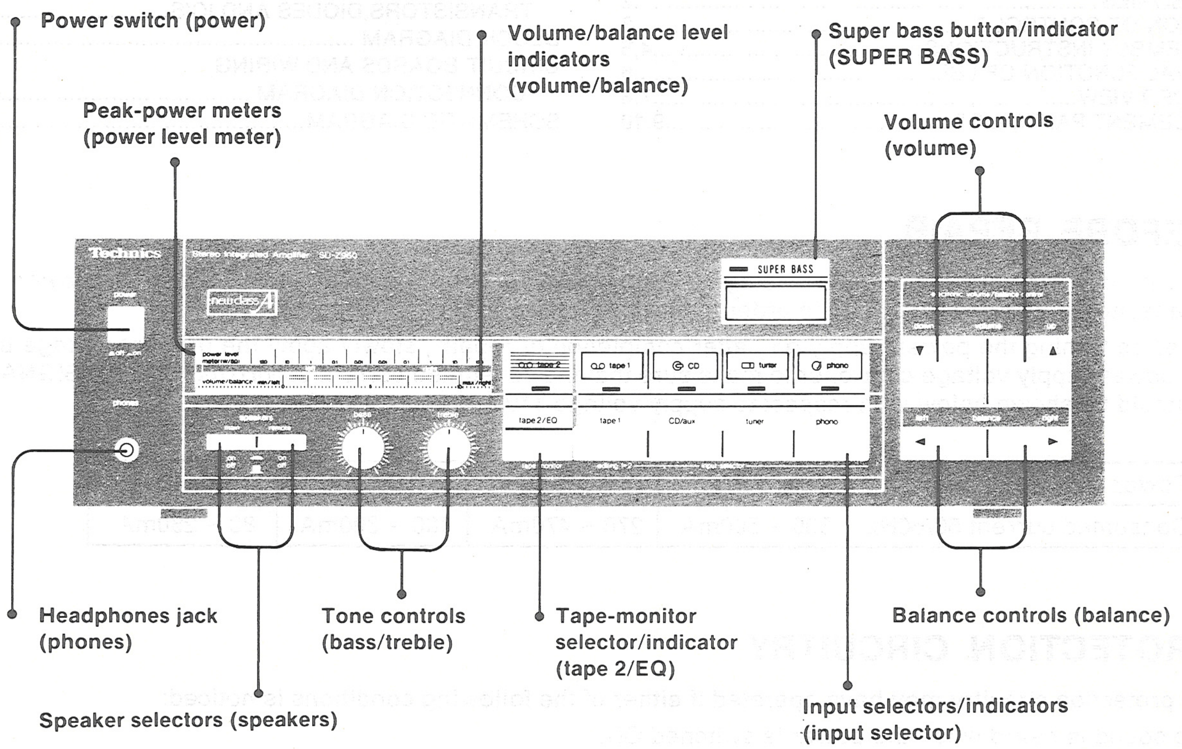


- Connection cable for remote-control operation 1
  SJP2257T

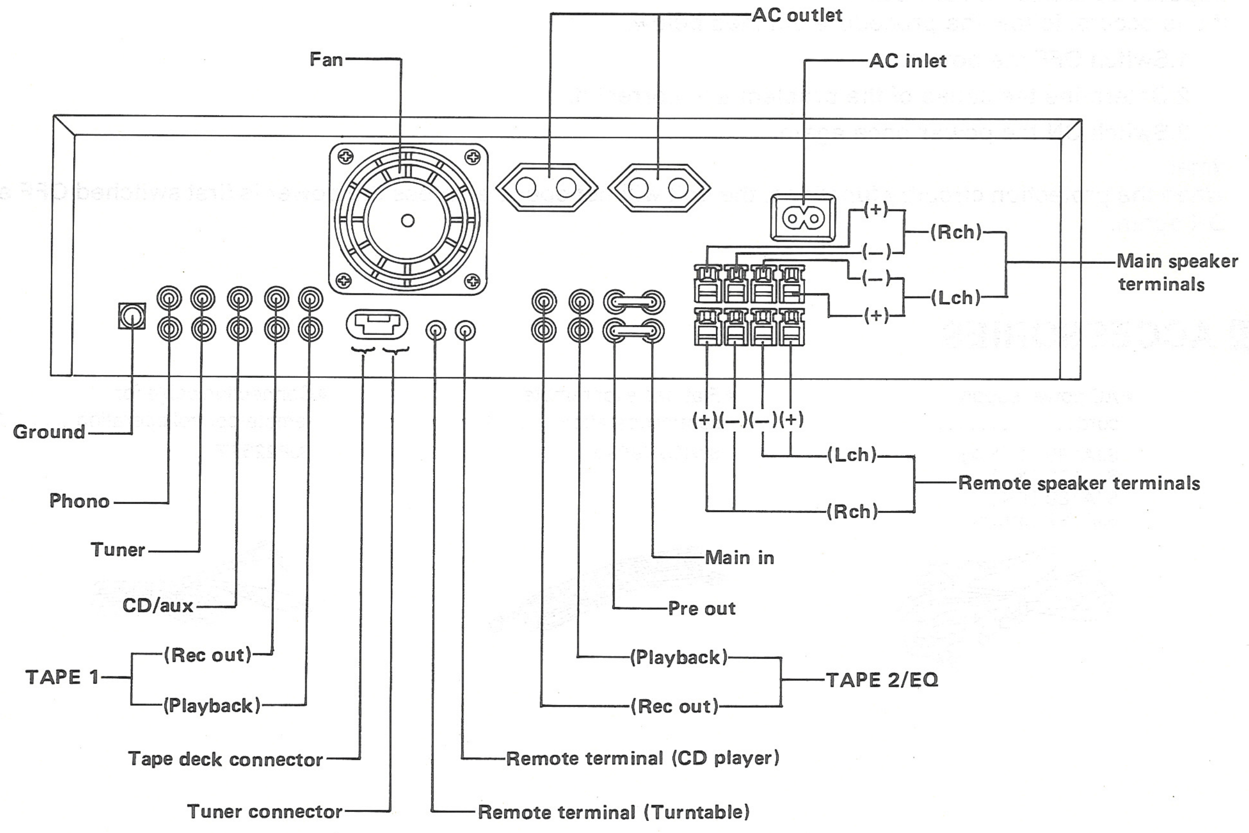


■ LOCATION OF CONTROLS

• Front panel


Power switch (power)
Peak-power meters (power level meter)
Volume/balance level indicators (volume/balance)
Super bass button/indicator (SUPER BASS)
Volume controls (volume)
Headphones jack (phones)
Tone controls (bass/treble)
Tape-monitor selector/indicator (tape 2/EQ)
Balance controls (balance)
Input selectors/indicators (input selector)
Speaker selectors (speakers)
Technics
SUPER BASS

• Rear panel


Fan
AC outlet
AC inlet
(+)
(−)
(−)
(+)
(Rch)
(Lch)
Main speaker terminals
(+)(−)(−)(+)
(Lch)
(Rch)
Remote speaker terminals
Ground
Phono
Tuner
CD/aux
TAPE 1
(Rec out)
(Playback)
Tape deck connector
Tuner connector
Main in
Pre out
(Playback)
(Rec out)
TAPE 2/EQ
Remote terminal (CD player)
Remote terminal (Turntable)

* Phono input capacitance is about 100pF.

■ DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"
SOME CHASSIS COMPONENTS MAY HAVE SHARP EDGES. BE CAREFUL WHEN DISASSEMBLING AND SERVICING.

Ref. No. 1 — **How to remove the front panel.**

Procedure 1

1. Remove the top cabinet.
2. Pull out the 2 knobs (❶ , ❷).
3. Remove the 3 screws (❸ ~ ❺).
4. Remove the 2 nuts (❻ , ❼)
5. Remove the connector.

Removing the knob
Wind cellophane tape around the knob and put it the direction of the arrow as shown in Fig. 1.

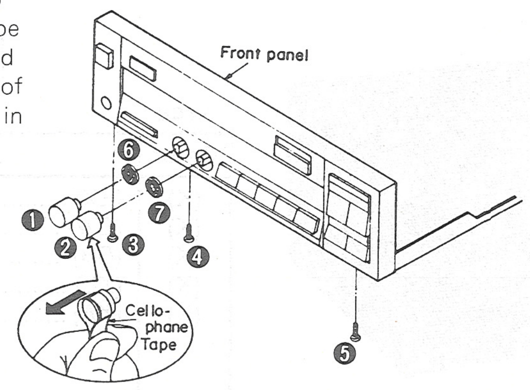

Front panel
❶
❷
❸
❹
❺
❻
❼
Cello-phane Tape

Fig. 1

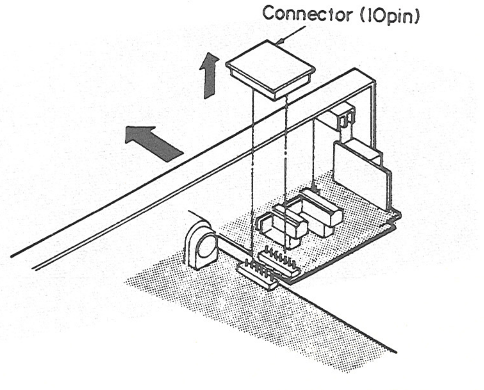

Connector (10pin)

Fig. 2

Ref. No. 2 — **How to remove the P.C.B.**

Procedure 1 → 2

1. Remove the 7 screws (❶ ~ ❼).
2. Remove the LED P.C.B.

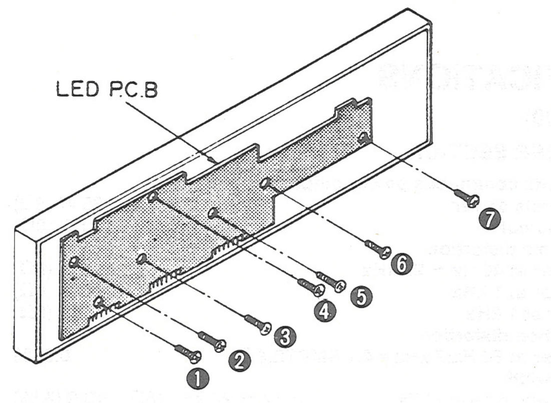
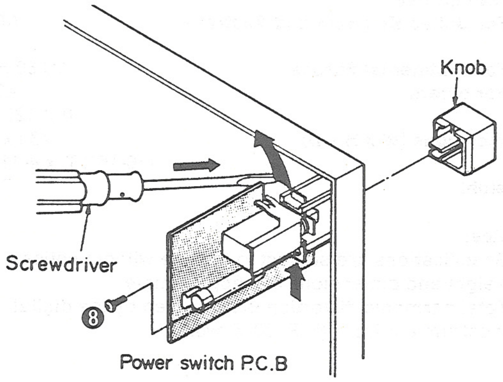

LED P.C.B
❶
❷
❸
❹
❺
❻
❼

Fig. 3

3. Remove the power switch knob.
4. Remove the 1 screw (❽).
5. Remove the power switch P.C.B.


Knob
Screwdriver
❽
Power switch P.C.B

Remove the knob by pushing it from behind the panel as shown in Fig. 4.

Fig. 4

6. Remove the 1 tab.
7. Remove the headphones P.C.B.

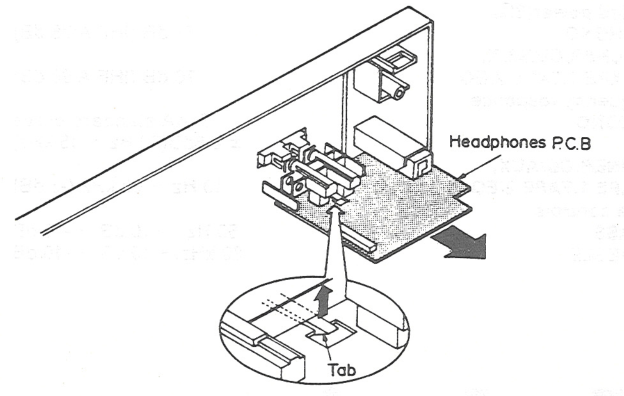

Headphones P.C.B
Tab

Fig. 5

Ref. No.
3

How to remove the main P.C.B.

Procedure
3

1. Remove the 10 screws (① ~ ⑩).
2. Remove the main P.C.B.

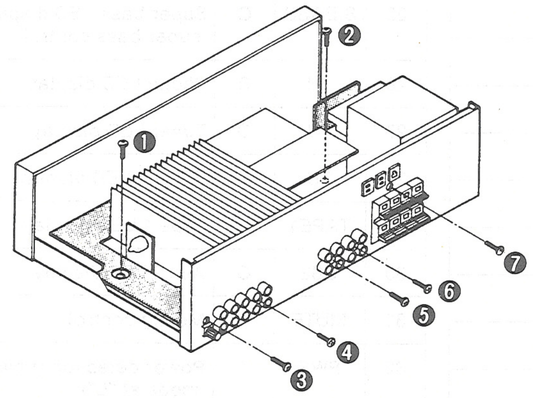


Fig. 6

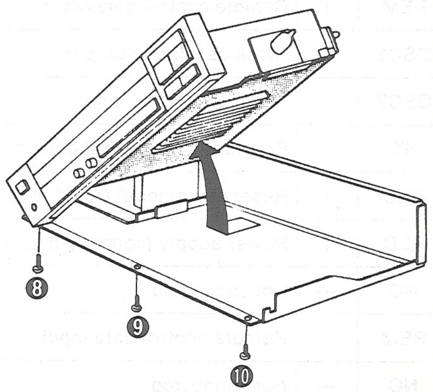


Fig. 7

Ref. No.
4

How to remove the power amplifier IC.

Procedure
3 →4

1. Unsolder the power IC.
2. Remove the 2 screws (① , ②).
3. Remove the sub heat-sink.
4. Remove the 2 screws (③ , ④).

- When mounting the power IC, apply silicon thermal compound (SZZ0L15 or equivalent) to the rear of the power IC.

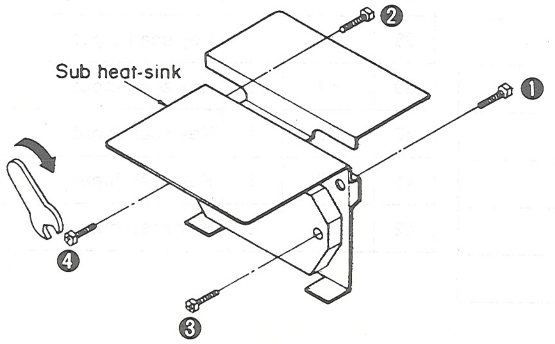

Sub heat-sink
②
①
④
③

Fig. 8

Ref. No.
5

How to remove the bottom board.

Procedure
5

Remove the 11 screws (① ~ ⑫).

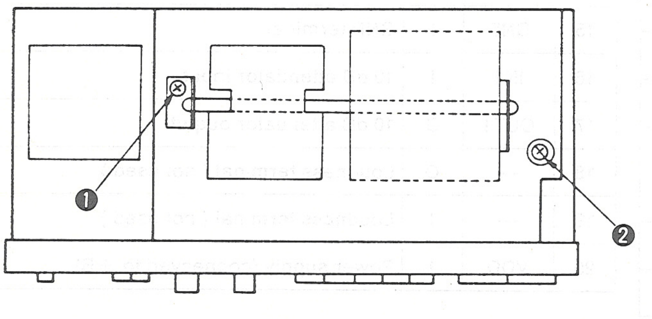


Fig. 9

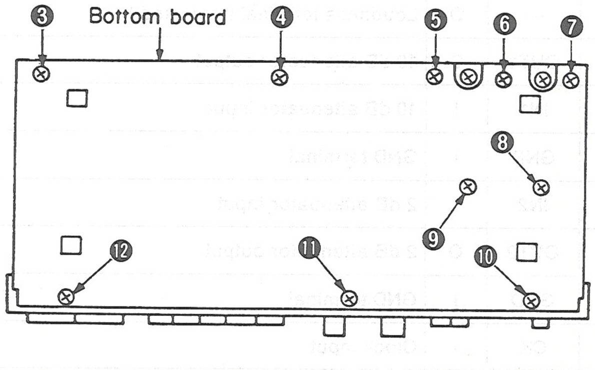

③
Bottom board
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫

Fig. 10

■ TERMINAL FUNCTION OF LSI

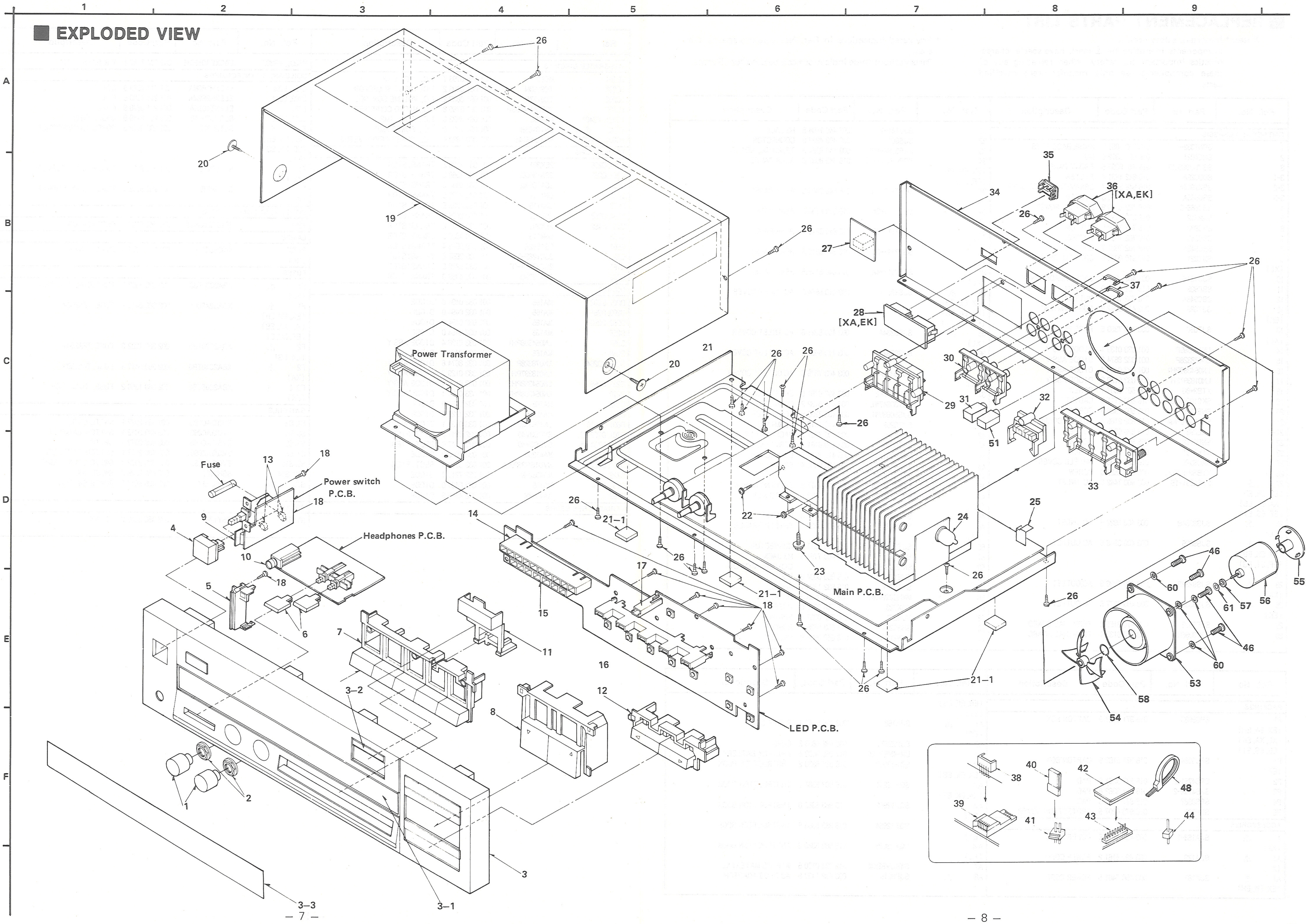
● M50720-408SP (Micro-computer)

Pin No.	Mark	I/O	Function
1	S1	O	Key scan output
2	S2	O	Key scan output
3	REM	I	Remote control data input
4	OSC1	O	Clock oscillation output
5	OSC2	I	Clock oscillation input
6	ST	I	Program start input (hot start at "H")
7	RES	I	Reset signal input (reset at "L")
8	VDD	I	Power supply (connected to +5V)
9	NC	---	Not connected
10	REM	I	Remote control data input
11	NC	---	Not connected
12	DATA	O	Selector and volume control
13	CLK	O	Selector and volume control
14	STB	O	Selector and volume control
15	TAPE2	O	Tape 2 LED display
16	1	O	Volume level LED 1 display
17	2	O	Volume level LED 2 display
18	3	O	Volume level LED 3 display
19	4	O	Volume level LED 4 display
20	---	I	GND terminal
21	---	I	GND terminal
22	5	O	Volume level LED 5 display
23	6	O	Volume level LED 6 display
24	7	O	Volume level LED 7 display
25	S.BASS	O	Super bass LED display and super bass control
26	PH	O	Phono LED display
27	TU	O	Tuner LED display
28	CD	O	CD/aux LED display
29	TAPE1	O	Tape 1 LED display
30	CS2	O	Aux 2 LED display
31	MUTE	I	Muting control
32	PWR	I	Power detection (power down mode at "L")
33	STOP	O	Turntable stop control
34	ST	O	Turntable start control
35	REC	I	Deck on-recording signal input
36	PLAY	I	Deck control signal input
37	DECK	O	Deck control signal output
38	K0	I	Key scan input
39	K1	I	Key scan input
40	K2	I	Key scan input
41	K3	I	Key scan input
42	S0	O	Key scan output

● TC9177P (Volume Control)

Pin No.	Mark	I/O	Function
1	VSS	I	Power supply (connected to -B)
2	---	I	Loudness terminal (not used)
3	---	O	Loudness terminal (not used)
4	OUT1	O	10 dB attenuator output
5	IN1	I	10 dB attenuator input
6	GND	I	GND terminal
7	IN2	I	2 dB attenuator input
8	OUT2	O	2 dB attenuator output
9	GND	I	GND terminal
10	CK	I	Clock input
11	DATA	I	Attenuation/channel select data input
12	ST	I	Strobe input (attenuation/channel select data input
13	OTT2	O	2 dB attenuator output
14	IN2	I	2 dB attenuator input
15	GND	I	GND terminal
16	IN1	I	10 dB attenuator input
17	OUT1	O	10 dB attenuator output
18	---	O	Loudness terminal (not used)
19	---	I	Loudness terminal (not used)
20	VDD	I	Power supply (connecyed to +B)

EXPLODED VIEW


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
26
20
19
Power Transformer
21
20
35
34
36
[XA,EK]
26
27
26
26
37
28
[XA,EK]
26
26
30
29
31
32
26
51
33
Fuse
13
18
Power switch
P.C.B.
18
9
4
Headphones P.C.B.
10
18
5
6
26
21–1
22
24
25
23
26
14
15
17
18
26
21–1
Main P.C.B.
26
46
60
61
57
56
55
7
11
16
26
21–1
46
60
53
58
54
3–2
8
12
LED P.C.B.
1
2
3
3–1
3–3
38
40
42
48
39
41
43
44

REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Code	Description
CABINET AND CHASSIS			
1	SBN1032-4	016 700 1857 9	KNOB, BASS.TREB
2	SNE4021	005 507 0372 5	NUT
3	SGYUZ960KE	016 840 8098 5	FRONT PANEL
3-1	SDU329A	016 842 1631 4	FILTER
3-2	SGX7904A	016 846 3787 7	ORNAMENT, SUPER BASS
3-3	SGU555A	016 842 1624 3	FILTER
4	SBC666-5	016 702 6679 9	BUTTON, POWER
5	SMP412	016 632 1789 3	ANGLE
6	SBC938	016 702 7019 5	BUTTON
7	SBC940	016 702 7031 9	BUTTON
8	SBC945A	016 702 7033 7	BUTTON
9 (XL)	SMZ321	016 610 0033 6	OPTICAL SHIELD
10	SJJ134B	003 400 7050 0	JACK, HEADPHONES
11	SBC939	016 702 7030 0	BUTTON
12	SBC946A	016 702 7029 3	BUTTON
13 (EK)	SJT388	003 410 6092 8	LUG TERMINAL
13 (XL)	SJT390	003 410 7350 5	FUSE HOLDER
14	LN108399P	001 033 0139 1	DIODE ASS'Y
15	LN078328P	001 032 8674 6	DIODE ASS'Y
16	LN054398PH1	001 033 0136 4	DIODE ASS'Y
17	LN018397PH	001 033 0129 3	DIODE ASS'Y
18	XTB3+8G	005 501 2607 7	SCREW
19	SKC1950K992	016 800 2711 5	CABINET
20	SNE2129-1	005 500 7938 6	SCREW
21	SKUUV76-KM	016 802 2186 4	BOTTOM BOARD
21-1	SKL293	016 828 0269 8	RUBBER
22	SNE2118	005 500 5011 2	SCREW
23	XTW3+8T	005 501 1358 9	SCREW
25	SMC6379	016 601 0538 7	SHIELD COVER
26	XTBS3+8JFZ1	005 501 2523 0	SCREW
27 ⚠ (EX, EW, EH) (XA, EK, EB) (EF, EG, EI)	SJS9231-1B	003 400 7442 8	AC INLET
27 ⚠ (XL)	SJS9234B	003 400 5922 5	AC INLET
28 ⚠ (EX, EH, EB) (EF, EI, EG) (EW)	SJS9225	003 400 3946 5	AC OUTLET
28 ⚠ (XA)	SJS9232B	003 400 5936 9	AC.OUTLET
28 ⚠ (EK)	SJS9332B	003 403 7377 5	AC.OUTLET
29	SJF5812	003 410 8155 2	TERMINAL BOARD
30	SJF3066N	003 410 8130 1	TERMINAL BOARD
31	SJJ141-1	003 440 7804 8	M3.JACK
32	SJS604	003 403 4237 8	CONNECTOR
33	SJF3062-1NK	003 410 8154 3	TERMINAL BOARD
34 (EX, EH, EB) (EF, EI)	SGPUZ960-KE	016 840 8097 6	REAR PANEL
34 (XA)	SGP7111-1A	016 840 7989 3	REAR PANEL
34 (EK)	SGP7111-2A	016 840 8190 0	REAR PANEL
34 (EG)	SGP7111-3B	016 840 8219 4	REAR PANEL
34 (EW)	SGP7111-3C	016 840 8218 5	REAR PANEL
34 (XL)	SGP7111-4A	016 840 8145 5	REAR PANEL
35 ⚠ (EX, EW, EH) (XA, EK, EB) (EF, EG, EI)	SJS9231A	003 410 5984 5	AC.INLET COVER
35 ⚠ (XL)	SJS9234A	003 400 5921 6	AC INLET COVER
36 (XA)	SJS9232A	003 410 5985 4	AC.OUTLET COVER
36 (EK)	SJS9332A	003 403 7376 6	AC.OUTLET COVER
37	SJP9205-2	003 492 6791 0	SHORTING PIN
38	SJT30647WL	003 410 8132 9	CONNECTOR
39	SJS50680WL	003 403 7235 8	CONNECTOR
41	SJT3209	003 410 1812 0	TERMINAL
42	SJS54-1	003 400 7801 5	JACK.SOCKET, (10P)
43	SJT3041	003 410 8161 4	TERMINAL BOARD
44	SJT3101	003 410 3704 5	CONNECTOR
45 (XA)	XYN3+C10FZ	005 503 0894 4	SCREW
46	XTBS3+10JFZ	005 501 4877 9	TAPPING SCREW
47 (XA)	SHE209	016 918 0588 5	PARTS KIT
48	SHR301	016 645 0044 0	CLAMPER
49 (XA)	SMX938	016 600 0539 1	SHIELD SPACER
50	SJT3213	003 410 6011 5	CONNECTOR
51	SJJ141	003 400 7754 5	M3 JACK
53	SMEZ960-KE		COVER, MOTOR
54	SHE174	016 950 0004 6	TOOL
55	SME97-1	016 632 1309 1	ANGLE
56	MMN6C2RKMS	002 310 0999 3	DC MOTOR
57	SDX323	016 756 0070 0	WHEEL
58	SUS271	016 726 0357 6	SPRING
60	SHG6267	016 653 0436 2	RUBBER
61	SHW21S40	016 643 0998 9	WASHER

Ref. No.	Part No.	Part Code	Description
PACKINGS			
P1 (EX, EW, EH) (XL, XA, EK) (EB, EG, EI)	SPG5983	016 971 5127 9	CARTON BOX
P1 (EF)	SPG5984	016 971 5162 6	CARTON BOX
P2	SPS4751-2	016 977 3361 9	PAD
P3	SPS4752-2	016 977 3362 8	PAD
P4	SPS3987	016 977 1182 8	PAD
P5	SPP723	016 978 0207 5	PROTECTION COVER
ACCESSORIES			
A1 ⚠ (XA)	SJA168-1	003 490 4122 9	POWER CORD
A1 ⚠ (XL)	SJA173	003 490 4161 2	POWER CORD
A1 ⚠ (EX, EW, EH) (EB, EF, EG) (EI)	SJA187	003 490 5481 5	POWER CORD
A1 ⚠ (EK)	SJA188	003 490 5443 1	POWER CORD
A2	SJP2257T	003 492 6803 3	CORD
A3	UM-4NEP-2P	017 955 0003 4	PRIMARY BATTERY
A4 (EX, EW, EB)	SQF12950	016 983 5330 2	INSTRUCTION BOOK
A4 (XA, EK, EF)	SQF12951	016 983 5381 1	INSTRUCTION BOOK
A4 (EG)	SQF12952	016 983 5382 0	INSTRUCTION BOOK
A4 (EI)	SQF12954	016 983 5383 9	INSTRUCTION BOOK
A4 (XL)	SQF13036	016 983 5380 2	INSTRUCTION BOOK
A7	SWKUV96KM	016 934 0170 5	WIRING MATERIAL
A8 ⚠	SJP9215	003 402 1437 9	AC PLUG ADAPTOR

Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS			
IC101	M5218L	001 060 3798 7	I.C., EQ AMP
IC201	TC9163N	001 061 0203 2	I.C., INPUT SELECTOR
IC202	TC9177P	001 061 0839 2	I.C., VOLUME CONTROL
IC203	M50720-408SP	001 061 5760 8	I.C., MICRO COMPUTER
IC301, IC401	M5238L	001 061 3522 8	I.C., TONE AMP
IC501 ⚠	SVI3105B	001 061 4021 0	I.C., POWER AMP
IC601, IC602	SVIBA6144	001 060 8320 1	I.C., POWER LEVEL METER
TRANSISTORS			
Q207, Q208	2SK301	001 030 2428 2	TRANSISTOR
Q251, Q252	2SA1309Q	001 030 4058 0	TRANSISTOR
Q253	2SA1309Q	001 030 4058 0	TRANSISTOR
Q255	UN4111	001 030 2899 5	TRANSISTOR
Q256	UN4115	001 030 4833 5	TRANSISTOR
Q257, Q258	2SK301	001 030 2428 2	TRANSISTOR
Q451, Q452	2SK301	001 030 2428 2	TRANSISTOR
Q453	UN4115	001 030 4833 5	TRANSISTOR
Q551	2SA992E	001 030 0513 4	TRANSISTOR
Q721	2SD1265-0	001 030 2652 6	TRANSISTOR
Q761	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q762	2SA1309Q	001 030 4058 0	TRANSISTOR
DIODES			
D201, D202	MA165	001 032 0494 0	DIODE
D203, D251	MA165	001 032 0494 0	DIODE
D252, D253	MA165	001 032 0494 0	DIODE
D255	MA165	001 032 0494 0	DIODE
D257	LN054398PH1	001 033 0136 4	DIODE ASS'Y
D258	MA165	001 032 0494 0	DIODE
D258-, D264	LN078328P	001 032 8674 6	DIODE ASS'Y
D265	LN018397PH	001 033 0129 3	DIODE ASS'Y
D266, D268	LN054398PH1	001 033 0136 4	DIODE ASS'Y
D270	LN054398PH1	001 033 0136 4	DIODE ASS'Y
D282	MA165	001 032 0494 0	DIODE
D551	MA4240H	001 032 7227 9	DIODE
D601-, D610	LN108399P	001 033 0139 1	DIODE ASS'Y
D701, D702 ⚠	SVDS3V40	001 032 1347 6	RECTIFIER
D703, D704 ⚠	SVDS3V40	001 032 1347 6	RECTIFIER
D705, D706	MA4130M	001 032 4960 9	DIODE
D711, D721 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D722	MA4062-M	001 032 7211 7	DIODE
D731, D761	MA165	001 032 0494 0	DIODE
D762	MA4082M	001 032 4955 6	DIODE
VARIABLE RESISTORS			
VR301, VR302	EWCXEA011C15	001 174 7737 1	V.R. BASS.TREB
COILS AND TRANSFORMERS			
L201, L202	ELEXH1R0MA	001 211 4079 8	COIL
L203, L204	ELEXH2R2MA	001 211 4080 5	COIL
L281	ELEXT101KA	001 211 3878 9	COIL
L501, L502	SLQY07G-40	001 211 2149 9	CHOKE COIL
T1 ⚠ (EX, EW, EH) (EB, EF, EG) (EI)	SLT5P277	001 202 9172 3	POWER TRANSFORMER
T1 ⚠ (XL, EK)	SLT5P278	001 202 9194 7	POWER TRANSFORMER
T1 ⚠ (XA)	SLT5P279	001 202 9102 7	POWER TRANSFORMER
COMPONENT COMBINATIONS			
Z251	EF0FC2004A4	001 242 0168 1	OSCILLATOR
LAMPS			
PL701 (XL)	XAMS6Q17C	002 351 1074 6	PILOT LAMP
FUSES			
F1 ⚠ (EK)	XBA2C20TB0	002 380 1352 0	FUSE 250V, T2A, T2A250V
F1 ⚠ (EX, EW, EH) (XL, XA, EB) (EF, EG, EI)	XBAS2A2001	002 380 0410 1	FUSE, T2A250V
F2 ⚠ (EW, EG)	XBA2C20TB0	002 380 1352 0	FUSE T2A250V
F2 ⚠ (XA)	XBA2C40TR0	002 380 0417 4	FUSE, T4A250V
F3, 4 ⚠ (EK)	XBA2C05TB0	002 380 1350 2	FUSE, T0.5A 250V
SWITCHES			
S1, S2	EVQQAC05G	003 439 2072 1	SWITCH, VOL
S3, S4	EVQQAC05G	003 439 2072 1	SWITCH, BAL(R/L)
S5, S6	EVQQAC05G	003 439 2072 1	SWITCH
S7, S8	EVQQAC05G	003 439 2072 1	SWITCH, TAPE1/CD
S9, S10	EVQQAC05G	003 439 2072 1	SWITCH, TUN/PHONO
S13, S14	SSH2127	003 435 6328 0	SW, SPEAKER
S15 ⚠ (XL)	ESB8249V	003 435 5877 0	POWER SWITCH
RELAYS			
RY551	SSY126	003 450 2686 0	RELAY

RESISTORS & CAPACITORS

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value

ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value 47x10¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	330
Type	Voltage	Peculiarity	Value (33x10° microfarad)

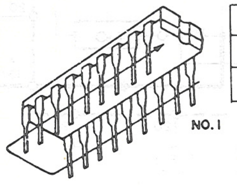
Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : ±5%
ERG : Metal Oxide	12 : 1/2W	F : ±1%
ERX : Metal Film	25 : 1/4W	G : ±2%
ERQ : Fuse Type Metal	1A : 1W	K : ±10%
ERD[ ] L : Carbon (chip)	18 : 1/8W	
ERO[ ] K : Metal Film (chip)	S2 : 1/4W	
ERC : Solid	S1 : 1/2W	
	2F : 1/4W	
	50 : 1/2W	
	2A : 2W	

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V	C : ±0.25pF
ECCD : Ceramic	1A : 10V	J : ±5%
ECKD : Ceramic	1C : 16V	K : ±10%
ECQM : Polyester	1E : 25V	Z : +80%
	1H : 50V	−20%
ECQP : Polyproylene	1V : 35V	P : +100%
	50 : 50V	−0%
ECG : Ceramic	05 : 50V	M : ±20%
ECEA□□□N: Non Polar	2H : 500V	
Electrolytic	2A : 100V	D : ±0.5pF
QCU□ : Ceramic (Chip Type)	1 : 100V	G : ±2%
ECUX : Ceramic (Chip Type)	KC : 400V AC	
ECF : Semiconductor	KC : 125VAC (UL)	
	1J : 63V	
EECW : Liquid electrolyte double layer capcitor		

Ref. No.	Part No.	Part Code
RESISTORS		
R101, R102	ERDS2TJ391	001 152 2360 6
R103, R104	ERDS2TJ473	001 152 2363 3
R105, R106	ERDS2TJ271	001 152 2435 4
R107, R108	ERDS2TJ123	001 152 2424 7
R109, R110	ERDS2TJ184	001 152 2588 8
R111, R112	ERDS2TJ184	001 152 2588 8
R113, R114	ERDS2TJ391	001 152 2360 6
R121, R122 (EG)	ERDS2TJ471	001 152 2361 5
R203, R204	ERDS2TJ563	001 152 2446 1
R205	ERDS2TJ563	001 152 2446 1
R206	ERDS2TJ474	001 152 2443 4
R207, R208	ERDS2TJ103	001 152 2347 3
R209, R210 (EG)	ERDS2TJ102	001 152 2346 4
R211, R212 (EG)	ERDS2TJ102	001 152 2346 4
R213, R214 (EG)	ERDS2TJ102	001 152 2346 4
R215, R216 (EG)	ERDS2TJ102	001 152 2346 4
R223, R224	ERDS2TJ333	001 152 2358 0
R225, R226	ERDS2TJ103	001 152 2347 3
R227	ERDS2TJ103	001 152 2347 3
R230	ERDS2TJ124	001 152 2425 6
R231	ERDS2TJ472	001 152 2362 4
R251	ERDS2TJ103	001 152 2347 3
R252	ERDS2TJ105	001 152 2422 9
R253, R254	ERDS2TJ103	001 152 2347 3
R255	ERDS2TJ104	001 152 2348 2
R257, R258	ERDS2TJ682	001 152 2365 1
R259	ERDS2TJ682	001 152 2365 1
R260	ERDS2TJ151	001 152 2426 5
R261, R262	ERDS2TJ221	001 152 2431 8
R263, R264	ERDS2TJ221	001 152 2431 8
R265, R266	ERDS2TJ221	001 152 2431 8
R267, R268	ERDS2TJ221	001 152 2431 8
R269, R270	ERDS2TJ151	001 152 2426 5
R271	ERDS2TJ151	001 152 2426 5
R273	ERDS2TJ121	001 152 2349 1
R274, R276	ERDS2TJ103	001 152 2347 3
R277, R278	ERDS2TJ103	001 152 2347 3
R279, R289	ERDS2TJ103	001 152 2347 3
R290	ERDS2TJ473	001 152 2363 3
R291	ERDS2TJ103	001 152 2347 3
R291	ERDS2TJ683	001 152 2450 5
R292, R293	ERDS2TJ103	001 152 2347 3
R293	ERDS2TJ472	001 152 2362 4
R294, R295	ERDS2TJ103	001 152 2347 3
R301, R302	ERDS2TJ474	001 152 2443 4
R303, R304	ERDS2TJ474	001 152 2443 4
R305, R306	ERDS2TJ392	001 152 2439 0
R307, R308	ERDS2TJ392	001 152 2439 0
R309, R310	ERDS2TJ183	001 152 2429 2
R311, R312	ERDS2TJ332	001 152 2357 1
R313, R314	ERDS2TJ122	001 152 2423 8
R315, R316	ERDS2TJ821	001 152 2454 1
R317, R318	ERDS2TJ223	001 152 2432 7
R321, R322	ERDS2TJ222	001 152 2353 5
R401, R402	ERDS2TJ471	001 152 2361 5
R403, R404	ERDS2TJ563	001 152 2446 1
R405, R406	ERDS2TJ682	001 152 2365 1
R407, R408	ERDS2TJ102	001 152 2346 4
R409, R410	ERDS2TJ224	001 152 2433 6
R411	ERDS2TJ563	001 152 2446 1
R415, R416	ERDS2TJ824	001 152 2457 8
R417, R418	ERDS2TJ102	001 152 2346 4
R452	ERDS2TJ224	001 152 2433 6
R453	ERDS2TJ563	001 152 2446 1
R501, R502	ERDS2TJ102	001 152 2346 4
R503, R504	ERDS2TJ393	001 152 2440 7
R505, R506	ERDS2TJ272	001 152 2354 4
R507, R508	ERDS2TJ393	001 152 2440 7
R509, R510	ERD25FJ4R7	001 152 0303 3
R511, R512	ERDS2TJ100	001 152 2420 1
R513, R514	ERG2ANJ331	001 151 0154 3
R520	ERD25FJ470	001 152 0309 7
R551	ERDS2TJ473	001 152 2363 3
R552	ERDS2TJ123	001 152 2424 7
R553 ⚠	ERG2ANJ152	001 151 0130 1
R554	ERDS1FJ472	001 152 2634 9
R556	ERDS2TJ154	001 152 2427 4
R601, R602	ERDS2TJ474	001 152 2443 4
R603, R604	ERDS2TJ103	001 152 2347 3
R605, R606	ERDS2TJ103	001 152 2347 3
R607, R608	ERDS2TJ330	001 152 2355 3
R609, R610	ERDS2TJ330	001 152 2355 3
R701, R702	ERG3ANJ102	001 151 0211 1
R703	ERDS1FJ271	001 152 2624 1
R704	ERDS1FJ221	001 152 2513 7
R722, R731	ERDS2TJ102	001 152 2346 4
R732, R733	ERDS2TJ273	001 152 2436 3
R734	ERDS2TJ124	001 152 2425 6
R761, R762	ERDS2TJ223	001 152 2432 7
R763, R764	ERDS2TJ223	001 152 2432 7
R765	ERDS2TJ392	001 152 2439 0
CAPACITORS		
C101, C102	ECCD1H101K	001 103 0341 2
C103, C104	ECKD1H102PF	001 103 1435 3
C105, C106	ECEA0JK330	001 120 0141 1
C107, C108	ECFTD682KXL	001 108 0363 1
C109, C110	ECFTD223KXL	001 108 0342 6
C111, C112	ECEA1HK010	001 120 0341 5
C113, C114	ECEA1CKS100	001 120 2600 7
C115	ECKD1H103PF	001 103 1449 7
C121, C122 (EG)	ECCD1H180KC	001 103 0448 2
C123, C124 (EG)	ECCD1H151K	001 103 0429 5
C201	ECKD1H103PF	001 103 1449 7
C209, C210 (EG)	ECCD1H101K	001 103 0341 2
C211, C212 (EG)	ECCD1H101K	001 103 0341 2
C213, C214 (EG)	ECCD1H101K	001 103 0341 2
C215, C216 (EG)	ECCD1H101K	001 103 0341 2
C225	ECKD1H223PF	001 103 1510 9
C226	ECKD1H473ZF	001 103 5404 4
C231	ECKD1H103PF	001 103 1449 7
C251	ECEA1HN2R2S	001 120 0356 8
C252	EECF5R5U473	001 120 3738 6
C253	ECEA0JU101	001 120 2829 8
C254	ECKD1H223PF	001 103 1510 9
C255	ECEA1HK010	001 120 0341 5

Ref. No.	Part No.	Part Code
C256, C257	ECBT1H102KB5	001 103 8123 8
C287, C288	ECBT1H102KB5	001 103 8123 8
C289	ECBT1H102KB5	001 103 8123 8
C291	ECKD1H102PF	001 103 1435 3
C301, C302	ECCD1H150KC	001 103 0410 6
C303, C304	ECKD1H221KB	001 103 1487 1
C305, C306	ECCD1H100KC	001 103 0321 6
C307, C308	ECEA1CKS100	001 120 2600 7
C309, C310	ECFTD123KXL	001 108 0745 1
C311, C312	ECFTD683KXL	001 108 0346 2
C313, C314	ECFTD562KXL	001 108 0904 4
C315, C316	ECFTD273KXL	001 108 0343 5
C317	ECKD1H103PF	001 103 1449 7
C401, C402	ECFTD104KXL	001 108 0793 3
C403, C404	ECFTD104KXL	001 108 0793 3
C405, C406	ECKD1H103PF	001 103 1449 7
C409, C410	ECEA1HKR47	001 120 0338 0
C411	ECKD1H473ZF	001 103 5404 4
C413, C414	ECEA1HK010	001 120 0341 5
C501, C502	ECEA1EN4R7S	001 120 0299 0
C503, C504	ECKD1H331KB	001 103 1523 4
C505, C506	ECKD1H471KB	001 103 1551 0
C507, C508	ECEA1CN330S	001 120 0240 9
C509, C510	ECCD1H150KC	001 103 0410 6
C511, C512	ECQM1H473JZ	001 106 0810 9
C521, C522 (EG)	ECKD1H473ZF	001 103 5404 4
C523, C524 (EG)	ECKD1H473ZF	001 103 5404 4
C525, C526 (EG)	ECKD1H221KB	001 103 1487 1
C551	ECEA0JU101	001 120 2829 8
C552	ECEA1HS330	001 120 0383 5
C553	ECQM1H224JZ	001 106 0746 0
C560	ECEA0JK470	001 120 0143 9
C601, C602	ECKD1H103PF	001 103 1449 7
C603, C604	ECEA1CKS100	001 120 2600 7
C701 (XL)	ECKWNS103ZV	001 103 8209 3
C702 (XL, XA, EK)	ECKD2H103PE	001 103 1626 8
C702 (EX, EW, EB) (EF, EG, EI)	ECQP1224JZW	001 106 5500 0
C703, C704	ECES1JU682U	001 120 5966 8
C707, C708	ECKD1H103PF	001 103 1449 7
C711	ECEA1CU471	001 120 3202 3
C721	ECEA16V1000	001 120 2545 7
C722, C724	ECKD1H103PF	001 103 1449 7
C731	ECEA1HK010	001 120 0341 5
C761	ECEA1CKS100	001 120 2600 7

TERMINAL GUIDE OF TRANSISTORS, DIODES AND ICS



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TC9163N	28Pin
TC9177P	20Pin

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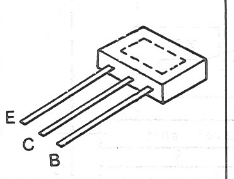
2SC3311A



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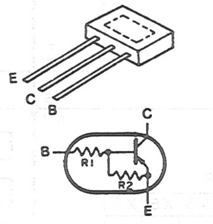

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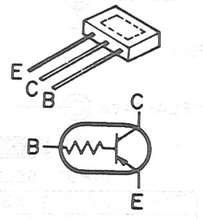

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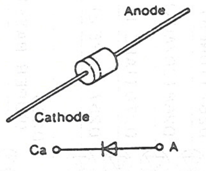

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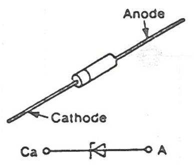

LN108399P
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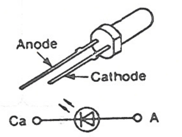
LN054398PH1
LN078328P



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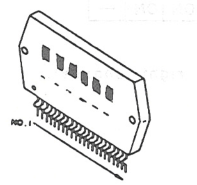
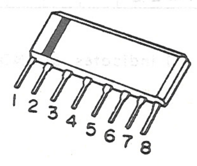


M5218L
M5238L



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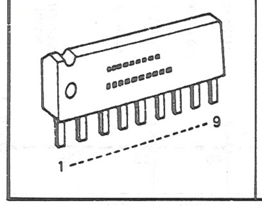

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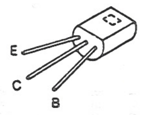

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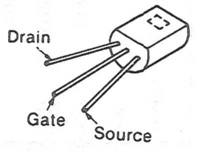

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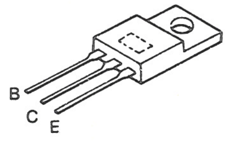
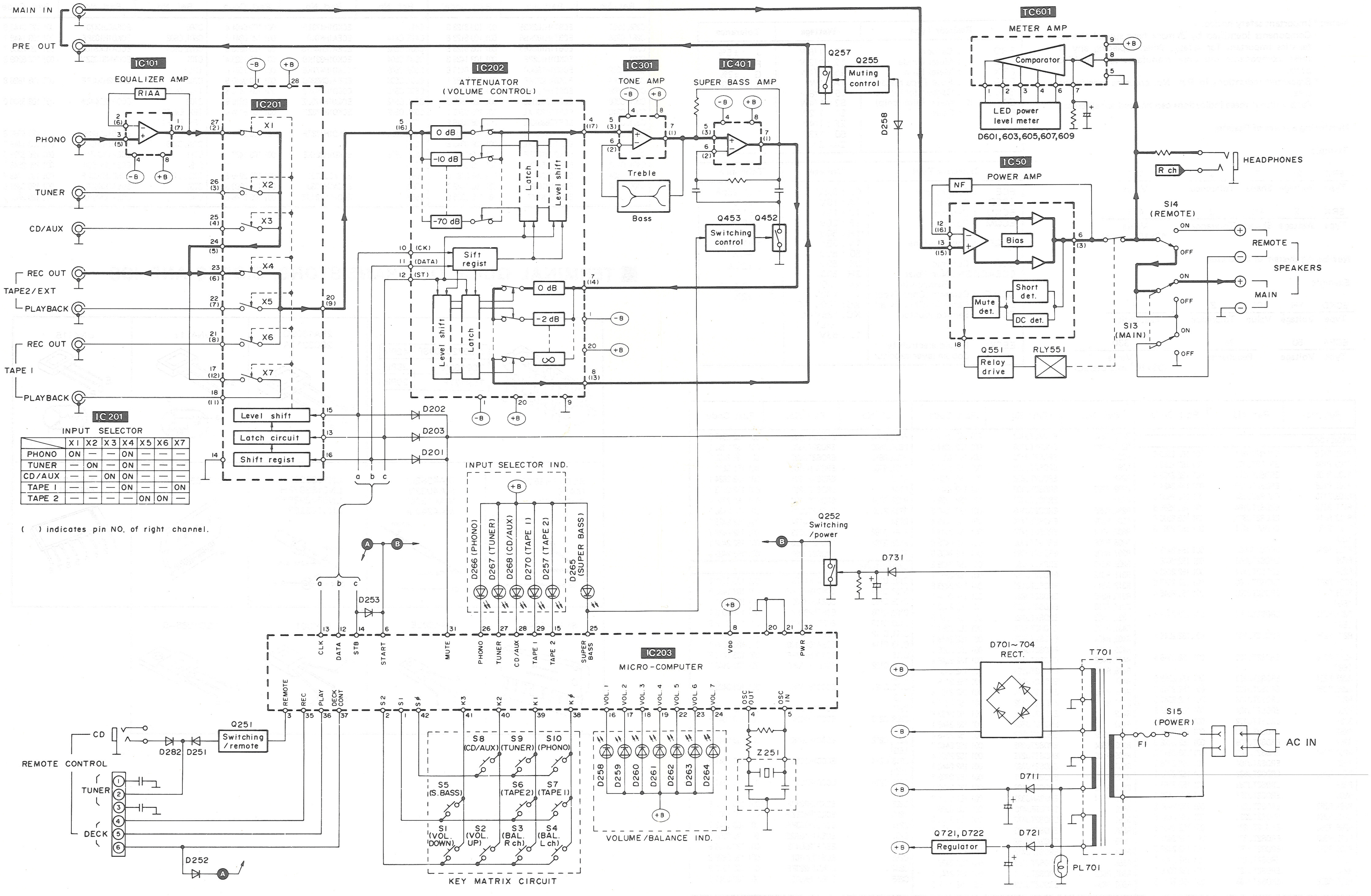


BLOCK DIAGRAM


MAIN IN
PRE OUT
IC101
EQUALIZER AMP
RIAA
PHONO
TUNER
CD/AUX
REC OUT
TAPE2/EXT
PLAYBACK
REC OUT
TAPE I
PLAYBACK
IC201
X1
X2
X3
X4
X5
X6
X7
Level shift
Latch circuit
Shift regist
IC202
ATTENUATOR
(VOLUME CONTROL)
0 dB
-10 dB
-70 dB
Latch
Level shift
Sift regist
(CK)
(DATA)
(ST)
0 dB
-2 dB
∞
IC301
TONE AMP
Treble
Bass
IC401
SUPER BASS AMP
Q453
Switching control
Q452
Q257
Q255
Muting control
D258
IC601
METER AMP
Comparator
LED power level meter
D601,603,605,607,609
IC50
POWER AMP
NF
Bias
Short det.
Mute det.
DC det.
Q551
Relay drive
RLY551
HEADPHONES
R ch
S14
(REMOTE)
ON
OFF
REMOTE
SPEAKERS
MAIN
S13
(MAIN)
D202
D203
D201
a b c
INPUT SELECTOR IND.
D266 (PHONO)
D267 (TUNER)
D268 (CD/AUX)
D270 (TAPE I)
D257 (TAPE 2)
D265 (SUPER BASS)
D253
A
B
Q252
Switching /power
D731
IC203
MICRO-COMPUTER
CLK
DATA
STB
START
MUTE
PHONO
TUNER
CD/AUX
TAPE I
TAPE 2
SUPER BASS
VDD
PWR
REMOTE
REC
PLAY
DECK CONT
S2
S1
S∅
K3
K2
K1
K∅
VOL. 1
VOL. 2
VOL. 3
VOL. 4
VOL. 5
VOL. 6
VOL. 7
OSC OUT
OSC IN
CD
REMOTE CONTROL
TUNER
DECK
D282
D251
Q251
Switching /remote
D252
S8 (CD/AUX)
S9 (TUNER)
S10 (PHONO)
S5 (S.BASS)
S6 (TAPE2)
S7 (TAPE I)
S1 (VOL. DOWN)
S2 (VOL. UP)
S3 (BAL. R ch)
S4 (BAL. L ch)
KEY MATRIX CIRCUIT
D258
D259
D260
D261
D262
D263
D264
VOLUME/BALANCE IND.
Z251
D701~704
RECT.
T701
S15
(POWER)
F1
AC IN
D711
D721
Q721, D722
Regulator
PL701
+B
-B

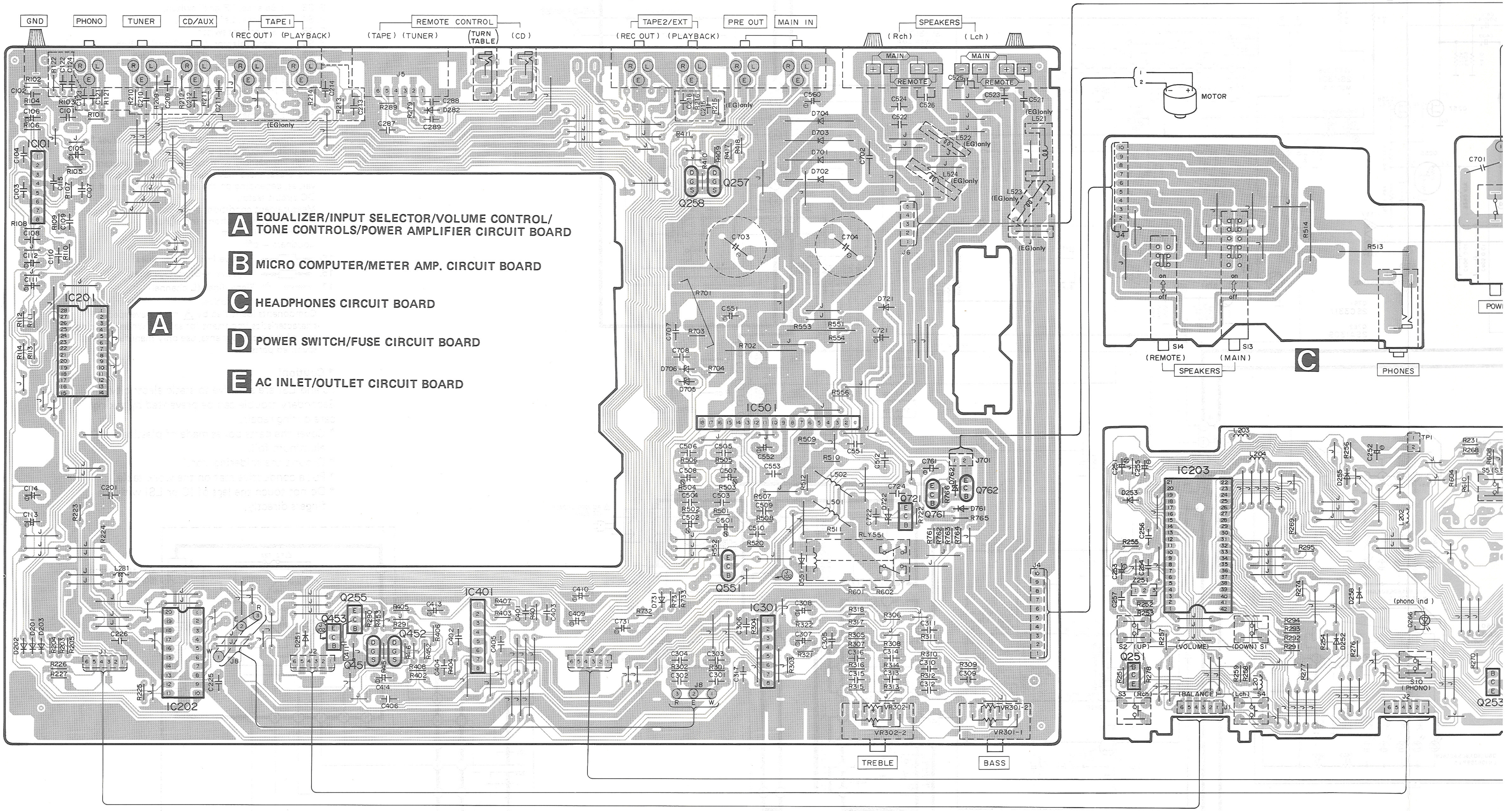
IC 201

INPUT SELECTOR

	X1	X2	X3	X4	X5	X6	X7
PHONO	ON	—	—	ON	—	—	—
TUNER	—	ON	—	ON	—	—	—
CD/AUX	—	—	ON	ON	—	—	—
TAPE 1	—	—	—	ON	—	—	ON
TAPE 2	—	—	—	—	ON	ON	—

( ) indicates pin NO. of right channel.

CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



A EQUALIZER/INPUT SELECTOR/VOLUME CONTROL/TONE CONTROLS/POWER AMPLIFIER CIRCUIT BOARD

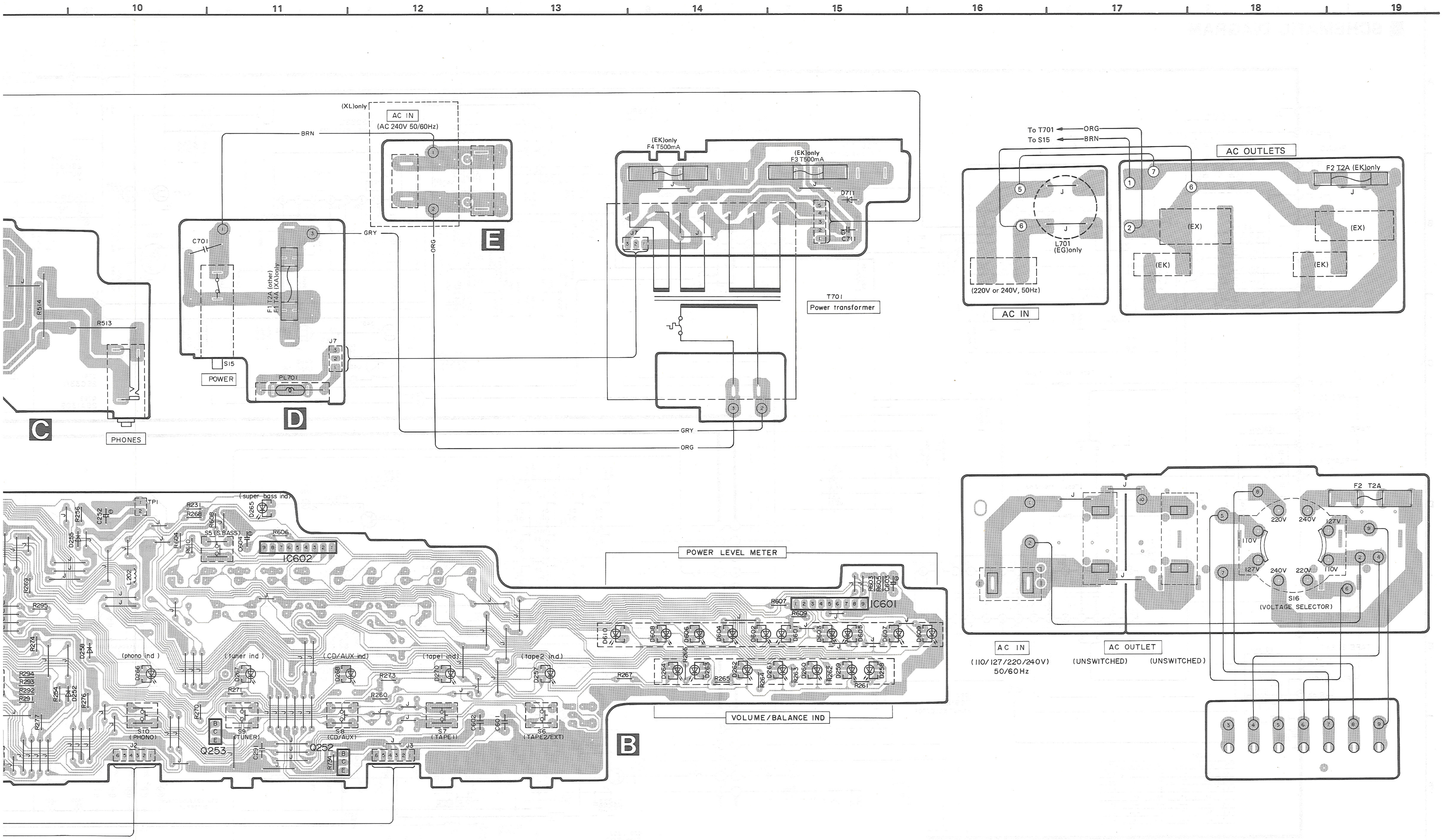
B MICRO COMPUTER/METER AMP. CIRCUIT BOARD

C HEADPHONES CIRCUIT BOARD

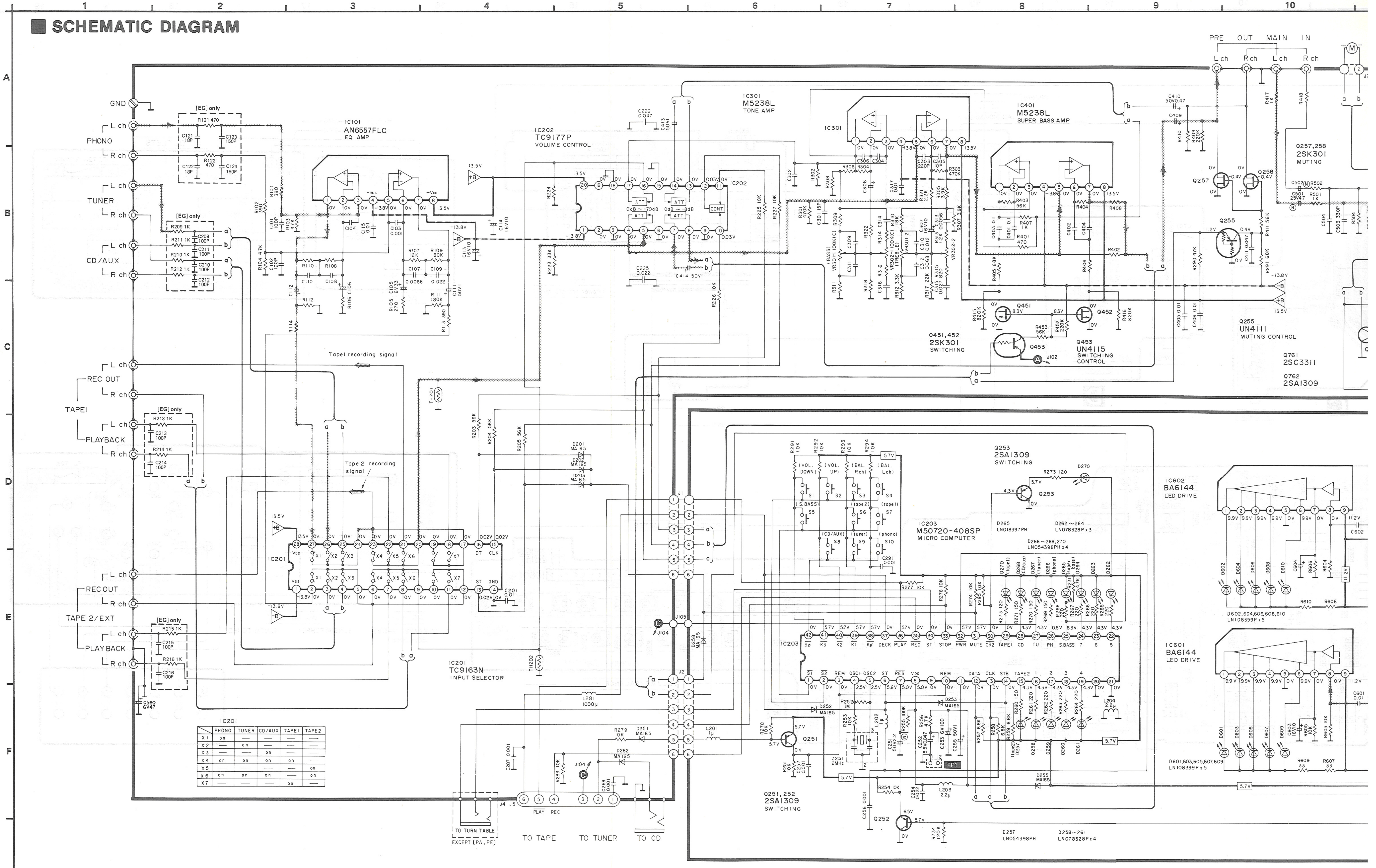
D POWER SWITCH/FUSE CIRCUIT BOARD

E AC INLET/OUTLET CIRCUIT BOARD

GND
PHONO
TUNER
CD/AUX
TAPE1
(REC OUT) (PLAYBACK)
REMOTE CONTROL
(TAPE) (TUNER)
TURN TABLE
(CD)
TAPE2/EXT
(REC OUT) (PLAYBACK)
PRE OUT
MAIN IN
SPEAKERS
(Rch)
(Lch)
MAIN
REMOTE
MOTOR
(EG)only
IC101
IC201
IC202
IC301
IC401
IC501
IC203
J5
J6
J4
J1
J2
J3
J8
Q257
Q258
Q255
Q453
Q451
Q452
Q551
Q721
Q761
Q762
Q251
Q253
RLY551
A
C
S14
S13
(REMOTE)
(MAIN)
SPEAKERS
PHONES
on
off
TREBLE
BASS
VR302-1
VR302-2
VR301-1
VR301-2
S2 (UP)
(VOLUME)
(DOWN) S1
S3 (Rch)
(BALANCE)
(Lch) S4
S10 (PHONO)
(phono ind)
TP1
R E W

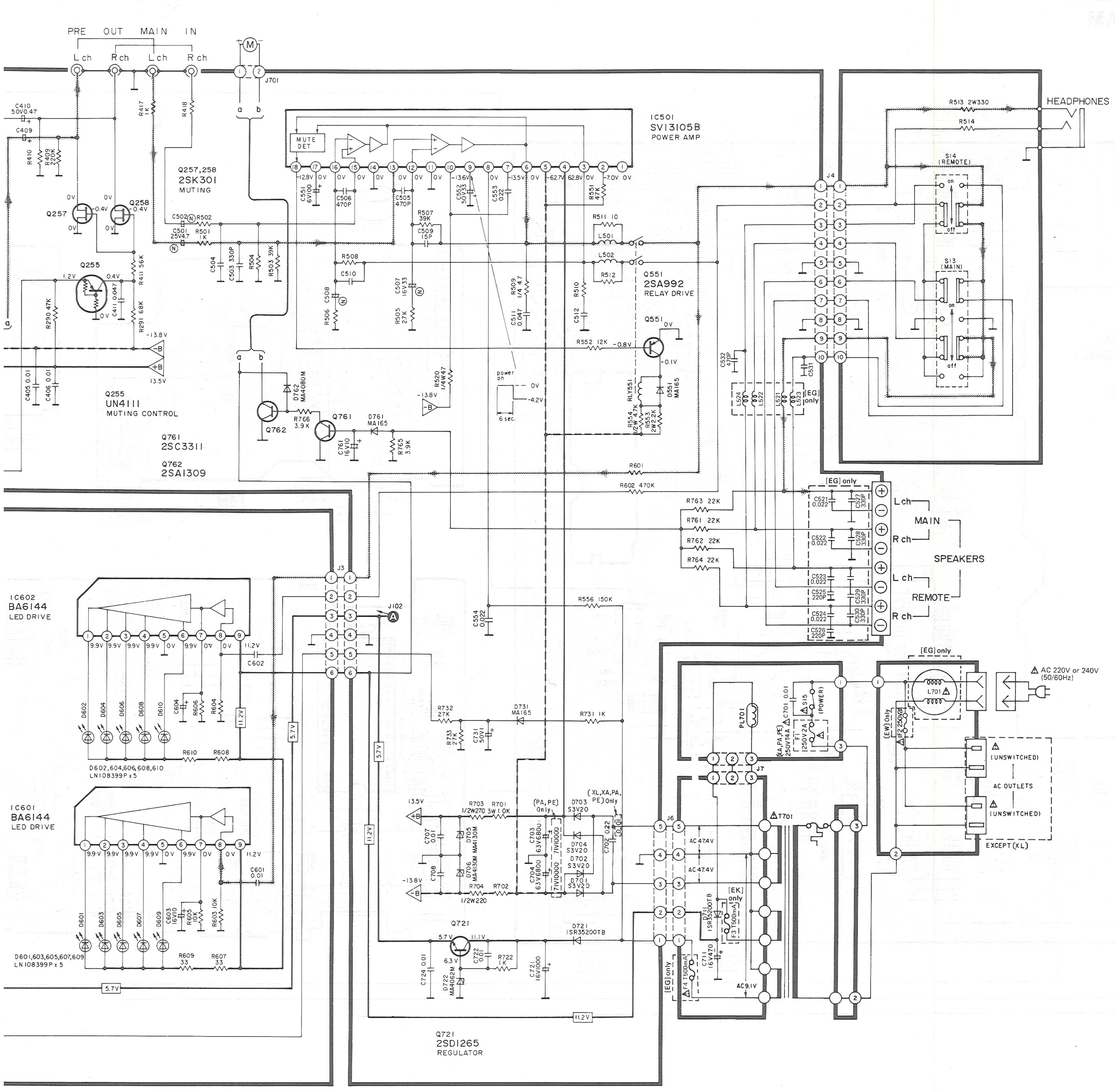

10
11
12
13
14
15
16
17
18
19
(XL)only
AC IN
(AC 240V 50/60Hz)
BRN
GRY
ORG
E
C701
F1 T2A (other)
F1 T4A (XA)only
S15
POWER
J7
PL701
D
R514
R513
PHONES
C
(EK)only
F4 T500mA
(EK)only
F3 T500mA
D711
C711
T701
Power transformer
To T701
To S15
AC OUTLETS
F2 T2A (EK)only
(EX)
(EK)
L701
(EG)only
(220V or 240V, 50Hz)
AC IN
F2 T2A
220V
240V
127V
110V
S16
(VOLTAGE SELECTOR)
AC IN
(110/127/220/240V)
50/60Hz
AC OUTLET
(UNSWITCHED)
(UNSWITCHED)
TP1
(super bass ind)
R231
R268
R256
C252
D255
R609
D265
S5 (S.BASS)
C604
R604
R610
R606
IC602
POWER LEVEL METER
R603
R605
C603
R607
IC601
R609
D610
D608
D606
D604
D602
D601
D603
D605
D607
D609
R269
R295
L202
R274
D258
(phono ind)
(tuner ind)
(CD/AUX ind)
(tape1 ind)
(tape2 ind)
D266
D267
D268
D270
D257
R273
R271
R260
R267
R266
D264
D263
R265
D262
R264
D261
R263
D260
D259
R262
D258
R261
R294
R293
R292
R291
R254
D252
R276
R277
R270
S10
(PHONO)
Q253
S9
(TUNER)
C251
Q252
R734
S8
(CD/AUX)
S7
(TAPE1)
C602
C601
S6
(TAPE2/EXT)
J2
J3
VOLUME/BALANCE IND
B

SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
GND
PHONO
L ch
R ch
TUNER
CD/AUX
[EG] only
TAPE1
REC OUT
PLAYBACK
TAPE 2/EXT
IC101
AN6557FLC
EQ. AMP.
IC202
TC9177P
VOLUME CONTROL
IC301
M5238L
TONE AMP
IC401
M5238L
SUPER BASS AMP
PRE OUT MAIN IN
Q257,258
2SK301
MUTING
Q255
UN4111
MUTING CONTROL
Q451,452
2SK301
SWITCHING
Q453
UN4115
SWITCHING CONTROL
Q761
2SC3311
Q762
2SA1309
Tape1 recording signal
Tape 2 recording signal
IC201
TC9163N
INPUT SELECTOR
Q253
2SA1309
SWITCHING
IC203
M50720-408SP
MICRO COMPUTER
IC602
BA6144
LED DRIVE
IC601
BA6144
LED DRIVE
Q251,252
2SA1309
SWITCHING
D265
LN01839 7PH
D262~264
LN078328P x 3
D266~268,270
LN054398PH x 4
D602,604,606,608,610
LN108399P x 5
D601,603,605,607,609
LN108399P x 5
D257
LN054398PH
D258~261
LN078328P x 4
TO TURN TABLE
EXCEPT (PA, PE)
TO TAPE
TO TUNER
TO CD
PLAY
REC
J104
J105
J102
TP1

IC201

	PHONO	TUNER	CD/AUX	TAPE1	TAPE2
X1	on	—	—	—	—
X2	—	on	—	—	—
X3	—	—	on	—	—
X4	on	on	on	on	—
X5	—	—	—	—	on
X6	on	on	on	—	on
X7	—	—	—	on	—


10
11
12
13
14
15
16
17
18
19
PRE OUT MAIN IN
L ch
R ch
L ch
R ch
M
J701
C410 50V0.47
C409
R410
R409 220K
R417 1K
R418
IC501
SVI3105B
POWER AMP
MUTE DET
Q257,258
2SK301
MUTING
Q257
Q258
Q255
UN4111
MUTING CONTROL
Q761
2SC3311
Q762
2SA1309
D762 MA4080M
D761 MA165
R766 3.9K
C761 16V10
R765 3.9K
Q551
2SA992
RELAY DRIVE
RLY551
D551 MA165
R552 12K
R554 1/2W 4.7K
R553 2W 2.2K
R511 10
L501
L502
R512
R513 2W330
R514
HEADPHONES
S14 (REMOTE)
S13 (MAIN)
on
off
J4
[EG] only
R601
R602 470K
R763 22K
R761 22K
R762 22K
R764 22K
L ch
MAIN
R ch
SPEAKERS
L ch
REMOTE
R ch
C521 0.022
C527 330P
C522 0.022
C528 330P
C523 0.022
C529 330P
C525 220P
C524 0.022
C530 330P
C526 220P
L524
L522
L521
L523
R556 150K
C554 0.022
power on
0V
-4.2V
6 sec.
IC602
BA6144
LED DRIVE
IC601
BA6144
LED DRIVE
D602,604,606,608,610
LN108399P x 5
D601,603,605,607,609
LN108399P x 5
R610
R608
R609 33
R607 33
C602
C601 0.01
11.2V
5.7V
J3
J102
R732 27K
R733 27K
C731 50V1
D731 MA165
R731 1K
R703 1/2W270
R701 3W 1.0K
(PA, PE) Only
D703 S3V20
(XL,XA,PA, PE) Only
D705 MA4130M
D706 MA4130M
C703 63V6800
C704 63V6800
71V10000
C702 0.022
D704 S3V20
D702 S3V20
D701 S3V20
R704
R702 1/2W220
13.5V
-13.8V
Q721
2SD1265
REGULATOR
C722 0.01
R722 1K
C724 0.01
D722 MA4062M
C721 16V1000
D721 ISR35200TB
D711 ISR35200TB
C711 16V470
F3 T500mA
F4 T500mA
[EK] only
[EG] only
J6
J7
AC 47.4V
AC 47.4V
AC 9.1V
T701
PL701
C701 0.01
S15 (POWER)
F1 250V2A
(XA,PA,PE) 250V1HA
[EW] Only
F2 250V
[EG] only
L701
AC 220V or 240V (50/60Hz)
(UNSWITCHED)
AC OUTLETS
(UNSWITCHED)
EXCEPT (XL)

(This schematic diagram may be modified at any time with the development of new technology.)

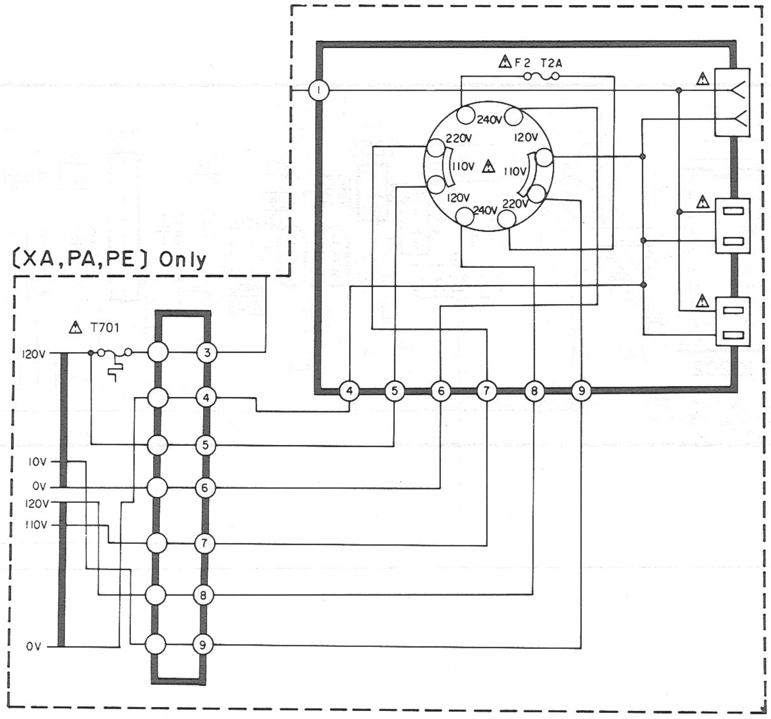
Notes:

1. S1 : Volume, "Down" switch.
2. S2 : Volume, "Up" switch.
3. S3 : Balance, "Right" switch.
4. S4 : Balance, Left" switch.
5. S5 : Super bass switch.
6. S6 : Input selector, "Tape2/ext" switch.
7. S7 : Input selector, "Tape 1" switch.
8. S8 : Input selector, "CD/aux" switch.
9. S9 : Input selector, "Tuner" switch.
10. S10 : Input selector, "Phono" switch.
11. S13 : Main speakers switch in "on" position.
12. S14 : Remote speakers switch in "off" position.
13. S15 : Power switch in "on" position.
14. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
    Measurement condition:
    Input selector — phono (no signal)
    Volume — Minimum
    Loudness — off
15: —▭— Positive (+B) voltage lines
16. -▭- Negative (−B) voltage lines
17. ⇛ Signal lines (L channel)
18. Impedance safety notice:
    Components identified by ⚠ mark have special, characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

*** Coution!**

IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.

- * Cover the parts boxes made of plastics with aluminum foil.
- * Ground the soldering iron.
- * Put a conductive mat on the work table.
- * Do not touch the legs of IC or LSI with the fingers directly.


(XA,PA,PE) Only
T701
120V
110V
0V
120V
110V
0V
F2 T2A
240V
220V
120V
110V
AC 110/127/220/240V (50/60Hz)

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ORDER NO. HAD8707222S4

Service Manual

Supplement

Stereo Integrated Amplifier

Amplifier

SU-V96

Color

(K) ....Black Type

Area

Color	Area
(K)	(PA) ....Far East PX.
(K)	(PE) ....European Military.

Please use this supplement manual together with the service manual for Model No. SU-V96, Order No. HAD8706167A4.

Notes:

* The circuit of SU-V96 has been changed for the improvement of performance.

* This supplement should be filed with the service manual for Model No. SU-V96, Order No. HAD8706167A4.

CHANGES

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	OLD	→ NEW		
POWER-TRANSFORMER				
T701 ⚠	SLT5P279	**SLT5P282**	Power Source	Change
THERMISTORS				
TH201	–––––	**RRT104**	Temperature Detector	Addition
TH202	–––––	**RRT104**	Temperature Detector	Addition
RESISTORS				
R211	–––––	**ERDS2TJ272**	Carbon, 1/4W, 2.7kΩ, ±5%	Addition
R212	–––––	**ERDS2TJ272**	Carbon, 1/4W, 2.7kΩ, ±5%	Addition
R215	–––––	**ERDS2TJ102**	Carbon, 1/4W, 1kΩ, ±5%	Addition
R216	–––––	**ERDS2TJ102**	Carbon, 1/4W, 1kΩ, ±5%	Addition

Technics

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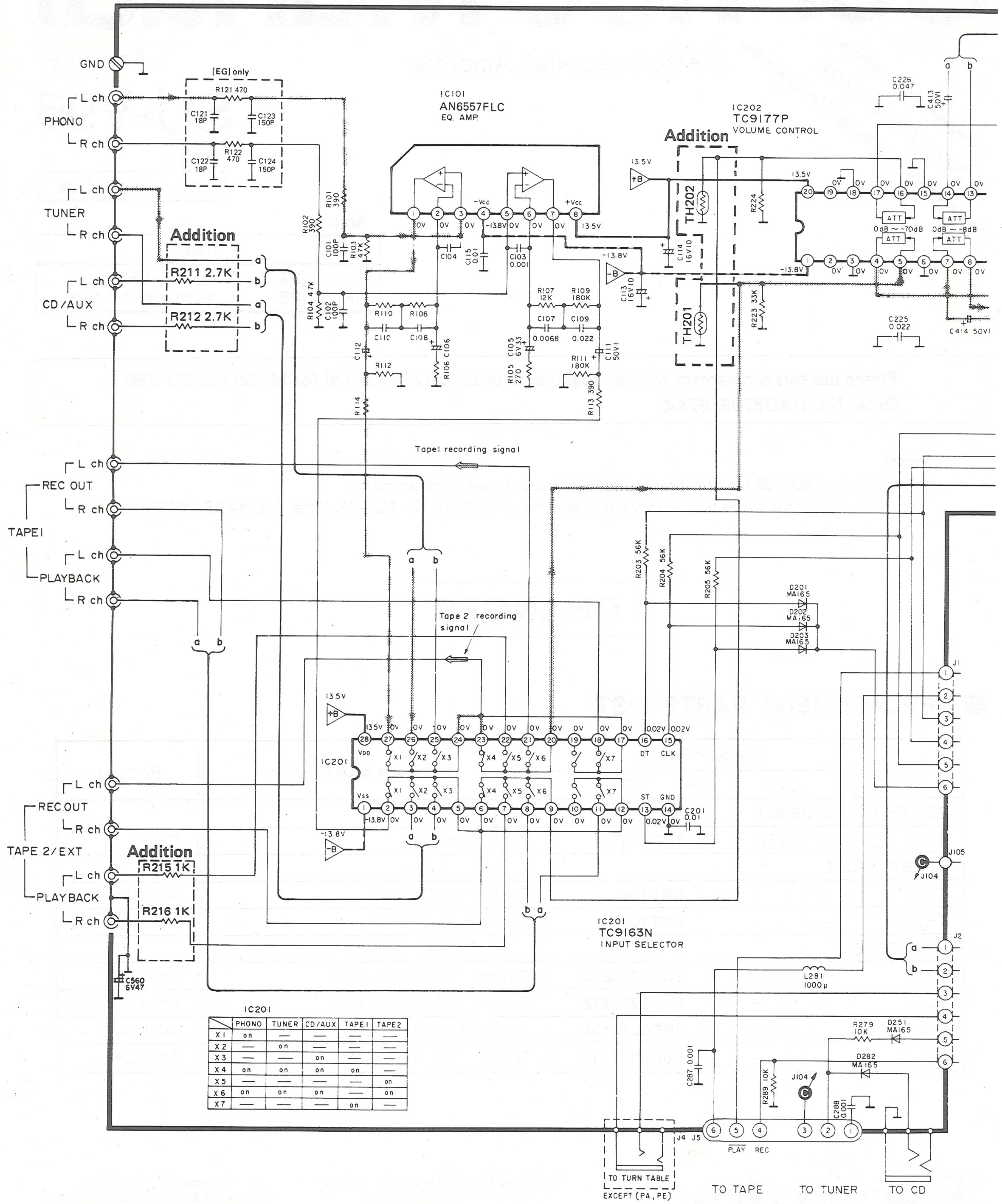
Tokyo 105, Japan

SCHEMATIC DIAGRAM


GND
PHONO
L ch
R ch
TUNER
CD/AUX
REC OUT
TAPE1
PLAYBACK
TAPE 2/EXT
[EG] only
R121 470
R122 470
C121 18P
C122 18P
C123 150P
C124 150P
Addition
R211 2.7K
R212 2.7K
R215 1K
R216 1K
IC101
AN6557FLC
EQ. AMP.
-Vcc
+Vcc
13.5V
-13.8V
R101 390
R102 390
R103 47K
R104 47K
C101 100P
C102 100P
C103 0.001
C104
C115 0.01
R107 12K
R109 180K
R110
R108
C107 0.0068
C109 0.022
C110
C108
C112
C106
R106
C105 6V33
R105 270
R111 180K
C111 50V1
R112
R113 390
R114
IC202
TC9177P
VOLUME CONTROL
TH202
TH201
C114 16V10
C113 16V10
R224
R223 33K
ATT
0dB ~ -70dB
0dB ~ -8dB
C226 0.047
C413 50V1
C225 0.022
C414 50V1
Tape1 recording signal
Tape 2 recording signal
R203 56K
R204 56K
R205 56K
D201 MA165
D202 MA165
D203 MA165
+B
-B
IC201
VDD
VSS
X1
X2
X3
X4
X5
X6
X7
DT
CLK
ST
GND
0.02V
C201 0.01
IC201
TC9163N
INPUT SELECTOR
C560 6V47
J1
J2
J105
J104
L281 1000μ
R279 10K
D251 MA165
D282 MA165
R289 10K
C287 0.001
C288 0.001
J4
J5
PLAY
REC
TO TURN TABLE
EXCEPT (PA, PE)
TO TAPE
TO TUNER
TO CD
a
b

IC201

	PHONO	TUNER	CD/AUX	TAPE1	TAPE2
X1	on	—	—	—	—
X2	—	on	—	—	—
X3	—	—	on	—	—
X4	on	on	on	on	—
X5	—	—	—	—	on
X6	on	on	on	—	on
X7	—	—	—	on	—